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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,291	07/31/2003	Norval J. Weimken	00-197	3250

7590

09/24/2004

Michael B. McNeil
Liell & McNeil Attorneys PC
P.O. Box 2417
Bloomington, IN 47402

EXAMINER

GIMIE, MAHMOUD

ART UNIT	PAPER NUMBER
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3747

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,291

Applicant(s)

WEIMKEN ET AL.

Examiner

Mahmoud Gimie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-12 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 5, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/25/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 6-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura (5,890,471).

Nishimura discloses a fuel injector comprising: an injector body (1) defining a nozzle outlet (19) and a needle control Passage (32); a needle valve member (14,17) positioned in said injector body (1) and including a closing hydraulic surface (15) exposed to fluid pressure in said needle control passage (32), and being movable between an open position in which said nozzle outlet (19) is open, and a closed position in which said nozzle outlet is blocked; an orifice member (23) positioned in said injector body and defining a flow passage with relatively restricted flow area, and being movable between a first position and a second position; said needle valve member (14,17) displacing fluid through said [orifice] flow passage when moving toward said open position; and said needle control passage (32) having a relatively unrestricted flow area to fluid flowing toward said closing hydraulic surface (14,17) over at least a portion of movement of said needle valve member between said open position and said closed position.

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With regard to claim 2, said orifice member (23) defines a portion of said needle control passage (32)

With regard to claim 3, a compressed spring (40) operably positioned in said injector body to bias said orifice member toward one of said first position and said second position.

With regard to claim 4, said compressed spring (40) is also operably coupled to bias said needle valve member (14,17) toward said closed position

With regard to claims 5-11, see above

With regard to claim 12, said orifice member (23) includes an opening hydraulic surface exposed to fluid pressure in an upstream portion of said needle control passage (32).

3. Claims 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ganser (4,826,080).

Ganser discloses a method of injecting fuel, comprising the steps of: opening a nozzle outlet slowly at least in part by displacing fluid, which is caused by movement of a needle valve member, through a restricted flow passage (26) defined by an orifice member; and closing said nozzle outlet quickly at least in part by displacing fluid toward a closing hydraulic surface of said needle valve member through an unrestricted flow passage defined at least in part by said orifice member; see figure 1, column 1-lines 41-46, and column 13-lines 62-65.

With regard to claims 15-20, see above and figure 1.

Allowable Subject Matter

4. Claims 5,13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references teach fuel injector needle movement control.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud Gimie whose telephone number is 703-305-1037. The examiner can normally be reached on Tuesday-Friday between 7 a.m. -3:30 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 703-308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MG

 9/17/04
MAHMOUD GIMIE
PRIMARY PATENT EXAMINER
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